FOR HISTORIANS AND COLLECTORS

VINTAGE SOUND ITEMS

THE HORN SPEAKER

Postal identification page 2

Published since 1972

Vol. XX No. 10 | Published by Jim Cranshaw, N5FSL | (903) 848-0304 | December 1991

Radio News

November, 1936

PHILCO

TELEVISION

Being a report of a television demonstration staged in Philadelphia in which sight and sound programs were received in a home with a scale of picture detail, accompanied by high-fidelity sound reproduction, good enough to be accepted immediately on the basis of commercial broadcasting. Fundamental technical data on the system is also presented for the benefit of amateurs and experimenters thinking about building.

By The Television Reporter

WHAT was undoubtedly one of the finest demonstrations of television transmission by radio was viewed by your reporter, recently, when Philco Radio and Television Corporation transmitted sight and sound programs from their main laboratory in Philadelphia to the home of W. H. Grimditch, seven and one-half miles distant from the transmitter.

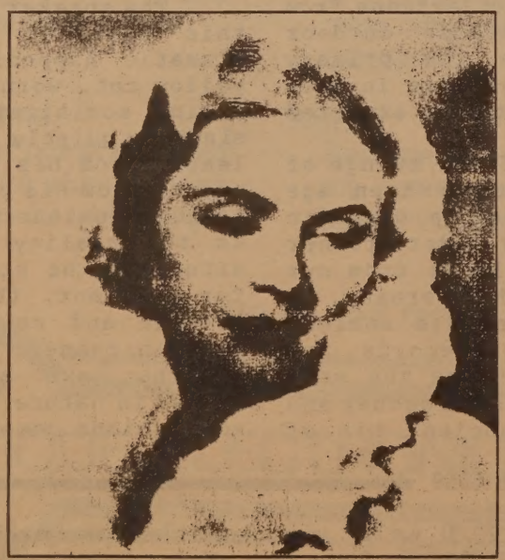
One thing that impressed us in the demonstration was the total absence of flicker and the smooth definition of the received pictures, which reminded us exactly of our own home moving-picture outfit in clarity of detail. This definition was great enough to allow the picture and writing on a package of Camel cigarettes to be read at the receiver when placed in front of the televisor (advertisers make note).

Defects Absent

This was the first time that we have viewed a demonstration of television in which the small but nevertheless bothersome inequalities of detail, small specks, wobble, did not interfere with the continuity of the picture being transmitted. In fact, they were absent and the feeling of actual vision, of the thing you are looking at, was experienced for the first time.

TELEVISION PICTURE "SNAPPED" BY RADIO EDITOR

This picture was actually photographed, during the demonstration, with a small hand camera directly from the screen of the television receiver, after the image had been sent through the air, by ultra-short-wave radio, a distance of 7½ miles. Do you think it good enough for commercial broadcasting?



The picture on this page was taken with an ordinary camera focussed on the screen, by one of the editors as the program went on. It really suffers by being a photograph of a photograph and also in being made into a cut for reproduction on this page, but at least it does give an idea of the smooth and natural pictures that were seen.

What Was Seen

During the demonstration, artists selected from the Philco staff, including singers, dancers and a whole quartet were viewed and heard. The inimitable Boake Carter was interviewed from Mr. Grimditch's home by telephone to the television studio. Mr. Carter was seated at a small table with the telephone in front of him and his answers to questions and comments about television were very much to the point. It was interesting to note the changes in expression on

(Continued on page 4)

PROGRAM COMING IN FINE

by Paul C. Crum

(Continued from last month.)

Now that all his listeners are gone (if he ever had any) this writer will come clean and confess to operating a hill billy program in his early broadcasting days. In his small station experience as related in another magazine, it was necessary to do almost anything to make a buck and keep himself in White Castle hamburgers. his theme was the traditionally sentimental "When It's Lamp Lighting Time in the Valley." This song had to do with an old hill billy woman lighting a coal oil (kerosene) "Rayo" lamp every night to let her kid know the coast was clear. He had been caught in the company of an old rooster and two leghorn hens that were said to not belong to him. It seems they had a new sheriff who was friendly to the family, so his mother wanted to tell him it was safe to come back. In the meantime, the kid got a job running a game for a guy in White City, and had decided to stay in the city. It looked like they'd have to light the lamp for quite a while. The fact the program actually received several favorable comments, proves that it is absolutely impossible to put on a radio program no one will listen to.

Written music was scorned by the bucolic practitioners of rural music. In this rather informal country music, it was often

difficult to identify one number from another, but this generally made little difference to the dancers in local haylofts. Modest compensation, mentioned earlier, and very modest, was the rule in these groups. I remember a five piece band that played in local Quincy, Illinois, which was paid forty dollars a week. Their livelihood came from playing for Saturday night dances in the area.

The desire of people to hear their names read over the radio, spawned a procedure that enriched Western Union and others in the communication business. While the artists got their breath between numbers, the announcer would read a list of numbers requested and those who had requested them.

Usually, the same format, the telegrams would say "Have the Hayshakers Play Mississippi Rag. That's for Helen Chiles in Palmyra, Illinois, requested by her friend Lucille Adkins in Bluffs, Illinois." Then regardless of whether the atmospheric noise was so heavy the announcer could hardly be heard over it and the signals were so weak that the woman singer who had just finished could not be identified as being Mona Lisa or Fanny Brice, the telegrams always ended: "Program Coming In Fine."

In the very early days of broadcasting and before the coming of the three dial tune radio frequency sets, both the receiving of a particular station and logging it for future listening, were indefinite and uncertain. Most vacuum tube sets were simple regenerative detector radios. The panels of such sets were a puzzling combination of dials and switches. The tuning inductances (usually variocouplers) had tape running from their primary windings to switch points on their panels. A rotating switch arm selected the desired tap. Such regenerative detector sets were sensitive, although difficult to operate. DeForest "Interpanel," 281, and Federal 58, for those affluent enough to own them, were beautiful to behold. Fortunately, less expensive receivers such as my own one tube home made receiver, made possible my early introduction to radio. Its tiny WD12 tube sat in a big white Crosley ceramic socket. To economize to the necessary limit, no big brown bakelite variocoupler provided the inductance, but a big green spider web coil served this purpose in my little Ultraudion.

Because the tuning condensers usually covered the same frequencies even when set on different switch taps of the variocoupler primary of the more elaborate receivers, this often produced an interesting phenomenon. On one tap switch point, sophisticated WEAF in metropolitan New York, might come through, but when the switch was moved to an adjacent tap, WCAZ, a fifty watt local station that sat in the middle of a field of tall sweet clover at Carthage, Illinois came through with an old time fiddler's contest.

With regenerative detectors in their oscillating mode -- and they usually were because regeneration changed as stations of different frequencies were selected -- if the main dial were moved to exact zero beat with the incoming signal, it first made the detuning known by a low growl as the tuning left the exact frequency. As it drifted only slightly from resonance, it gave a throaty, warbling effect to the received signal.

for technically knowledgeable operators, several ways were available to reduce the feedback to the point where the detector no longer oscillated and the squealing did not occur. Most non technical operators did not possess this degree of expertise and if the tuning drifted far from zero beat, a loud cacophony of squalls and yelps protested the technical incompetence of the listener. The tuning and the detuning of these oscillators detectors was subject to almost any conceivable disturbance. Persons coming close to the tuning elements of the receiver disturbed this tuning causing loud aural objections from the receiver. Because outdoor antennas were in the primary circuit, any disturbance in them caused detuning with the expected results.

I remember with a twinge of whatever conscience a teen age person may have had, a dramatic experience that my elder brother who lived a few blocks from our home, had one Sunday morning.

Those familiar with ancient cylinder phonograph records, are familiar with what was the most famous of these: "The Preacher and the Bear." This ancient bit of rural humor tells how one Sunday morning instead of being in Church, a preacher went hunting. A bear went hunting at the same time, and selected the preacher as his quarry. All will remember the plea of the preacher to the All Mighty, as he shinnied up a tree to safety, "Lord, if you can't help me, for goodness sakes don't you help that bear." My brother, like the preacher at that particular time, admittedly being of somewhat relaxed moral standards and of no known religious orientation, frequently spent his Sabbath mornings by his radio listening to what might be called secular programs rather than those embraced by the more devout of the neighborhood. One such program came from a Chicago station.

My own youthful moral posture was somewhat open to challenge and this, with normal boyish enthusiasm suggested a bit of devilment, as I approached my brother's house and realized it was time for his favorite program. Creeping up on the front porch -- houses had front porches then -- I touched my fingers to the bare leadin from the antenna to my brother's radio.

As I touched the leadin, lightly at first, a low growl came through the window from the little Radiola horn speaker. Accustomed to having to work to keep the stations in tune, my brother carefully adjusted his set to zero beat once more, and the program came through with 1924 traditional clarity. Anyone knowing the nature of my older brother, and my own disposition would know that this pleasant condition would not long be permitted to continue.

Just as the program came through again, I moistened my finger tips and pressed hard on the number fourteen wire.

The speaker let out a shriek. this resulted in two rather dramatic happenings. His large yellow cat, worn from a night of feline socializing and who was sleeping quietly behind the radio, leaped from his bed. Striving to adjust from his peaceful dreaming of the previous accomplishments, to the reality of the present situation, he stood bolt upright for a moment, then shot for the kitchen and cowered behind the kitchen range.

The next occurrences were verbal in nature. Several forceful suggestions came from my brother

ISSN 0898 6959

POSTAL IDENTIFICATION STATEMENT— THE HORN SPEAKER (USPS 956120) is published monthly, except July and August by Jim Cranshaw, Route 3 Box 79, Canton, Texas 75103. Subscription rates are $12.50 yearly and $20.00 for two years. Second class postage paid at Canton, Texas. POSTMASTER: Please send address changes to: THE HORN SPEAKER, P. O. Box 1193, Mabank, Texas 75147.

as he sought once more to attain zero beat. The program was permitted to continue for a moment without interruption. then dragging my finger along the leadin a loud burst of squeals, howls and grunts came from the little Radiola speaker.

Although in my own activities, I am somewhat into the exercise of the English language, as I even profit modestly from contributions to various publications, my brother has never gone very deeply into matters of language. Generally lacking in expletives, his own speech had been expected, trite. That Sabbath morning he departed from his usual patterns and rose to unusual literary heights. He verbally outlined his personal feelings, his philosophy and his feelings toward his fellow men in a way that I have never been able to equal.

His language that morning was such that it probably would not have been permitted on present day television, even with its advertisements of absorbent undergarments and other personal products. It contained a rich mixture of non religious invectives and the questioning of the ancestry of certain persons involved.

After a time, quiet, both electronic and emotional, was restored in my brother's living room. The squealing and gurgling stopped. A brief burst of music came through the window. A short pause. Then the announcer followed: "This is WQJ the Calumet Baking Powder Station in Chicago. Conditions seem to be good here recently for radio reception. We have a telegram here from James Davis in Jacksonville, Illinois who says, 'Although we're more than two hundred miles from Chicago, we listen to you each Sunday morning. The program is coming in fine.'....."

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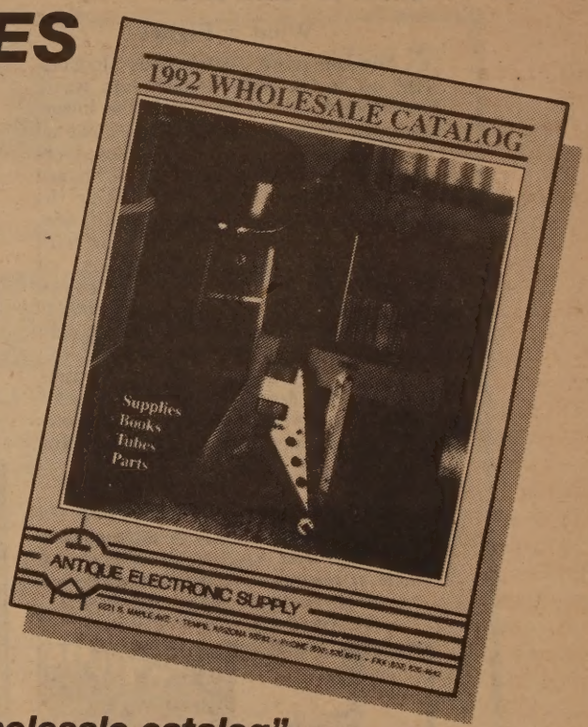

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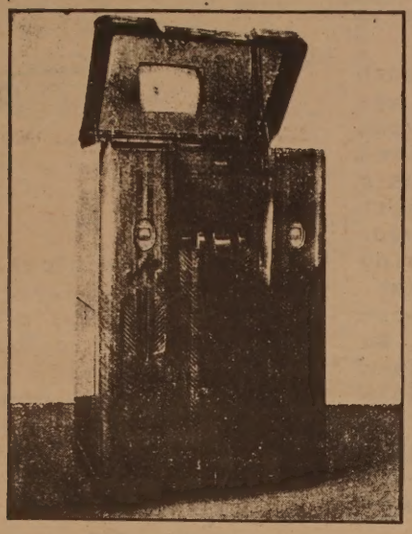

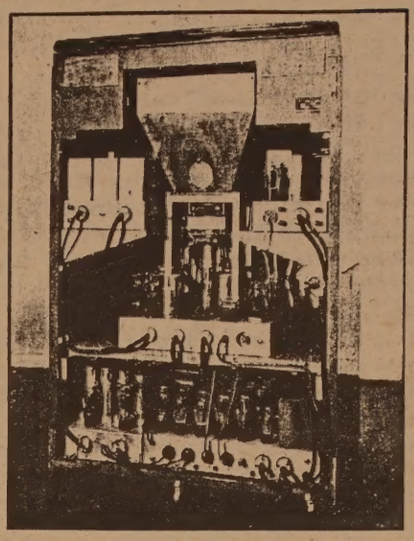

FRONT AND REAR VIEWS OF TELEVISION RECEIVER

At the left is the front view, showing the loudspeaker grills, the tuning knobs for the video and audio signals and in the slanting lid, the mirror which reflects the pictures to the looker and listener-in. At right: Rear view showing the various chasses for scanning, signal reception and the power units.

his face coming to us by television as he made a point or as he stressed an idea, with words which came to us from the loudspeaker. If all the broadcast listeners who hear his news comments daily could only have seen his face as we did, they would have had even a better insight into the quick perception of that very active brain.

What a Fight!

Another scene, that had us "lookers-in" up on the edges of our seats, was a one-round contest in which the boxers (drawn from the factory force) put up a lively "scrap" in a ring built outdoors on the roof. This scrap was climaxed by one of the contestants knocking the other clear out of the make-shift ring. Actually he took the whole ring with him, railing, posts and everything; all the details of this were easily shown and were quite unexpected and humorous. Even the announcer could hardly stop laughing at the incident.

One of the most significant features of the whole demonstration was the running of a one-reel moving picture showing the exploits of a wild-life collector catching various animals by a novel, but it seemed to us quite hazardous, method; catching them with his hands. He dived from the banks of a jungle stream into the water after alligators, fish, huge turtles, otter, and actually outswam his victims. Some of these views were "under-water" shots and we were sorry to see the end of the picture arrive. When television comes (and it is on the way) moving pictures such as this can be viewed right in our own homes, and the moving picture industry had better watch its laurels! It seems to us that moving pictures and television will have to be very closely tied up in the future and it would be only logical to expect that the moving picture industry will associate themselves with, or control, the interests who will do our future television broadcasting.

MAKING AN ELECTRIC EYE

This laboratory worker is shown putting the final touches on the glass bulb of the photo-electric device which converts the visual scene into electric impulses for transmission.

A SUBJECT BEING "SCANNED"

This young lady, who sang for the audience, is shown before the television camera with an operator focusing the device just as the test television program started.

But now for some of the details of the Philco television system. Some of this information will be important to those amateurs or experimenters who are thinking of building experimental types of television receivers and are trying to learn the fundamentals on which future broadcasts will be based. The electrical specifications for this system are as follows. The carrier frequency of the picture transmitter is 51 megacycles. The carrier frequency for the sound transmissions was 54.25 mc. This makes a spacing, between the two carrier centers, of 3.25 mc. approximately. The total space taken up in the ultra-short-wave spectrum is 6 mc. The number of scanning lines was 345, but this is being changed to conform to the R.M.A. recommendations of 440—450 lines. The number of pictures-per-second transmitted were 60, 30 of them being interlaced. By "interlacing" is meant that the lines of each consecutive frame show in between the lines of the preceding one. This reduces the rather striped appearance of earlier methods. The polarity of the transmission is negative. The aspect ratio is 4.3. The percentage of television signal devoted to the synchronizing signal was 20 percent. The wave-form of the

NEW JOBS FOR TECHNICIANS

There will be many calls for operators of television transmitters, men who understand both radio and television, when this art becomes established on a commercial basis.

synchronizing signal is narrow and vertical.

The focussing device for picking up the television signal actually looks somewhat like a camera on wheels. It contains a large tube, operating on photo-electric and cathode-ray principles combined. This tube generates, by an electrical scanning method, voltages corresponding to the light and shade of the television picture which is focussed by the lens onto the signal plate of the tube. A special amplifier in the control room strengthens these varying voltages about 10,000 times, to modulate the ultra-high-frequency transmitter. Also mixed with this television signal, as it is transmitted, are the synchronizing and blanking impulses. These impulses when received by the receiving set control the movement of the electron beam in the receiving cathode tube which rebuilds the picture.

In the studio there were, of course, accompanying the picture transmitting apparatus, microphones and audio-frequency amplifiers and another radio transmitter for sending the sounds to our receiving location.

A separate pick-up device consisting of a specially built projector, was used for transmitting the motion picture part of the program. This apparatus energizes the same radio transmitters that were used for televising the actual scenes.

The receiver used at Mr. Grimditch's home, over which we saw and heard the program, comprised a combination sound and television receiver, an experimental Philco model which tuned over the frequency range of 42—86 mc. These receivers tune the sound and sight channels, separately, and tuning in the dual program was accomplished very much as one would tune the usual sound receiver. They are not at all difficult to operate. Front and rear views of this receiver are shown on these pages. The rear view shows (at top) the metal container for the cathode-ray tube and surrounding this are the units for synchronizing and controlling the beam. The power units are distributed along the bottom of the cabinet.

The total number of tubes used in the set is 36. Looking at the front of the cabinet one can see (at the top) the hinged mirror which reflects the picture to the listeners' eyes and lower down on the front of the cabinet (at right and left) the sound and television tuning knobs and dials.

Philco officials stated that they have been working steadily but quietly on television for a number of years, first using 60-line scanning disks in 1928. In 1932 they started transmissions over their experimental station W3XE transmitting 240-line pictures by an electronic method. The next work carried them through the necessary research work in the vacuum tube laboratory, on special tubes to be used in the system. We understand that Farnsworth collaborated in this work. The next experiments were made with 345 lines and in due course the necessary wide-band amplifiers were developed and improved. Other special new tubes were designed to meet the requirements and once again defects and distortions had to be eliminated one by one. The first experiments with 345 lines were made by wire; then later the experimental television transmitter W3XE was rebuilt and the power increased to 1½ kw.

Next in line came transmitting experiments, over the city of Philadelphia and its suburbs, to find what power was necessary to flash television signals to distances in a circle at least 7 miles from the transmitter. Various types of antennas and transmission lines were tested. A special mobile truck was employed, fully equipped with television apparatus, for plotting field strength for satisfactory service throughout the city.

Along with this work were researches in combination television-and-sound receivers, to develop the apparatus necessary to receive the programs.

With all these units of a complete system developed and operating satisfactorily, field tests were started on the system in December, 1935. Many changes have been made since then and starting in June, 1936, another series of experimental programs were broadcast nightly by the station on 51 and 53.25 mc. As a result of these tests the present apparatus used by Philco was developed so that this very excellent demonstration could be made. Philco engineers tell us that work is now progressing on still another stage of progress. Mr. Larry E. Gubb, President of the company, when asked how soon we would have television commercially, stated "Commercial television will not come during 1936", but he added "Television is going to be a tremendous industry when it does come." Mr. James M. Skinner, Chairman of the Board, stated that he "believed television sets could be sold as soon as a reliable service started." Sayre M. Ramsdell, Executive Vice President of the company told us that "Philco's main objective in television, at present, was to produce and receive a good picture." He also said he "would hate to see a patent monopoly set up in television," although he thought a patent pool like that in the automobile industry, so that *everybody could use these patents to build a big industry* would be advisable. He also stressed the point that *a single set of television standards must be arrived at* and that this standard should be set high enough to give definition as good as home moving pictures.

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First Annual Portable Radio Set Directory

By HUGO GERNSBACK

A Complete List of Portable Radio Receiving Sets of American Manufacture with Complete Data on Each Set.

RADIO NEWS takes pleasure in presenting, this month, its First Annual Portable Radio Set Directory. This is a companion directory to the First Annual Radio Set Directory published in our March, 1925, issue. We believe that this directory is complete and represents all of the portable radio sets manufactured in the United States at the present time.

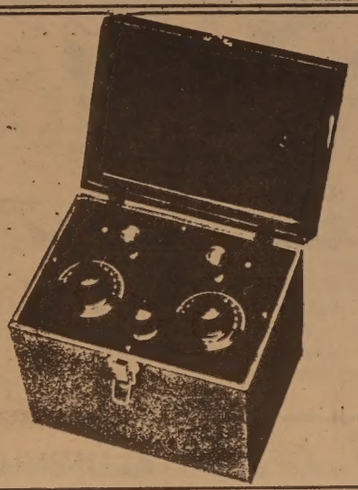
This year is the first one in which manufacturers have contributed a good selection of sets to the industry. There are, in fact, twenty-two of them represented, which should prove sufficient for all purposes.

Inasmuch as the size and weight of portable sets are important considerations, this information has been added wherever available.

With close to 600 radio broadcast stations operating throughout the length and breadth of the land, and a great number of these with increased power, it is now possible to enjoy radio programs no matter where you are located, or where you travel, whether you go on a motor camping trip, whether you go into the wilds of the forest, or into the most inaccessible places.

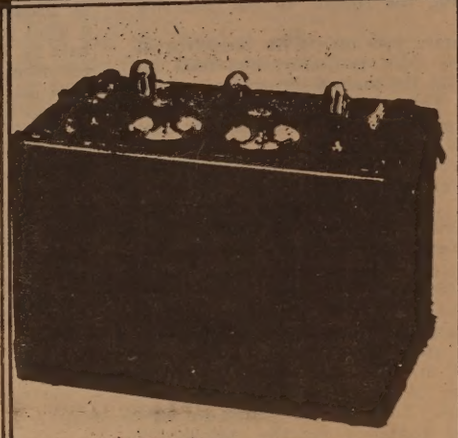
It goes without saying that portable sets are also very popular in homes where it is often necessary to transport an outfit from room to room, particularly in apartments where space is at a premium. There is also a huge demand springing up for portable sets for hospitals and hotels.

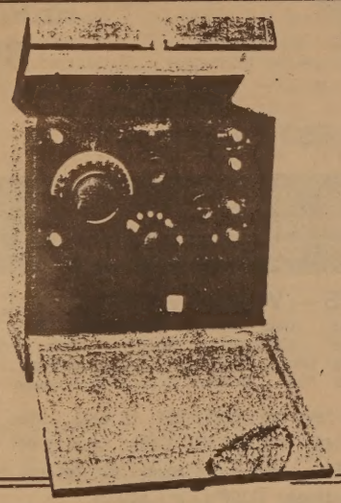
One New York hotel, the Roosevelt, in which RADIO NEWS' Station WRNY is located, provides its guests, upon application, with portable sets.



TRADE NAME: American Apparatus Co., Portable
MODEL: CN-7
TYPE: Regenerative
WEIGHT AND SIZE: 15 lbs., 7½ x 10½ x 8½ inches
TUBES: Two 199 type
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Outdoor
PRICE: $20, without accessories
MANUFACTURER'S NAME: American Apparatus Co.

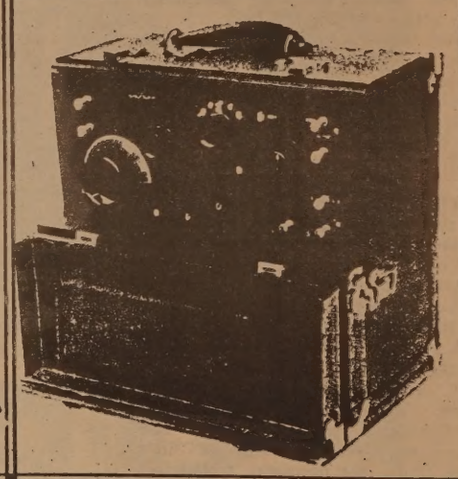
TRADE NAME: Kennedy
MODEL: III
TYPE: Single circuit
WEIGHT AND SIZE: 24 lbs., 13 x 14 x 8 inches
TUBES: Three
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Outdoor
PRICE: $75, without accessories
MANUFACTURER'S NAME: Colin B. Kennedy Corp.

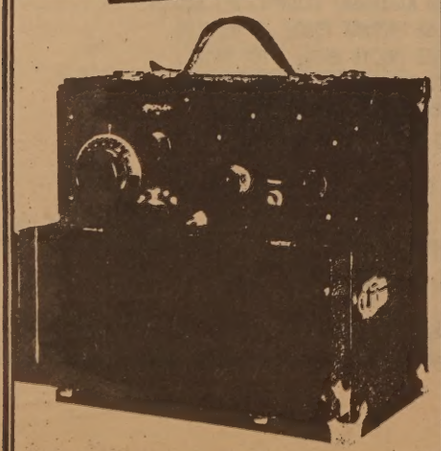




TRADE NAME: Crosley 50-Portable
MODEL: 50-Portable
TYPE: Regenerative
TUBES: One
BATTERIES: Dry
CONTROLS: Three
ANTENNA: Outdoor
PRICE: $16, less accessories
MANUFACTURER'S NAME: Crosley Radio Corporation

TRADE NAME: Crosley 51-Portable
MODEL: 51-Portable
TYPE: Regenerative
TUBES: Two
BATTERIES: Dry
CONTROLS: Three
ANTENNA: Outdoor
PRICE: $23.50, less accessories
MANUFACTURER'S NAME: Crosley Radio Corporation

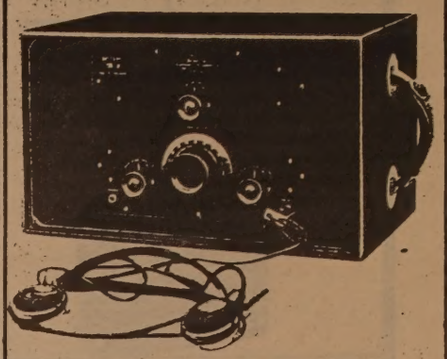




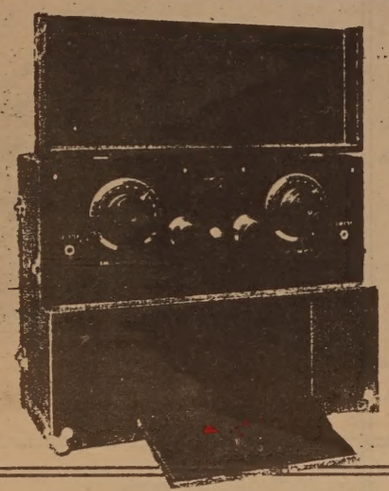
TRADE NAME: Crosley 52-Portable
MODEL: 52-Portable
TYPE: Regenerative
TUBES: Three
BATTERIES: Dry
CONTROLS: Three
ANTENNA: Outdoor
PRICE: $35, less accessories
MANUFACTURER'S NAME: Crosley Radio Corporation

TRADE NAME: Superiorflex
MODEL: P.3-S
TYPE: Reflex
WEIGHT AND SIZE: 39 lbs., 20 x 9½ x 12¼ inches
TUBES: Three
BATTERIES: Dry or wet
CONTROL: Single
ANTENNA: Short outdoor
PRICE: $150, including antenna and ground
MANUFACTURER'S NAME: Electrical Research and Manufacturing Company

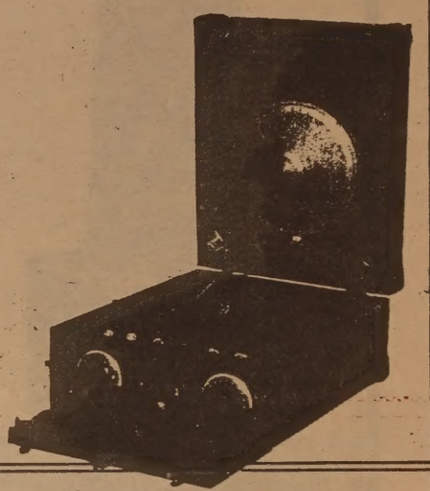
TRADE NAME: Superiorflex
MODEL: P3
TYPE: Reflex
WEIGHT AND SIZE: 34 lbs., 20 x 9½ x 12¼ inches
TUBES: Three
BATTERY: Dry or wet
CONTROL: Single
ANTENNA: Antenna and ground furnished.
PRICE: $125, less accessories
MANUFACTURER'S NAME: Electrical Research and Manufacturing Company



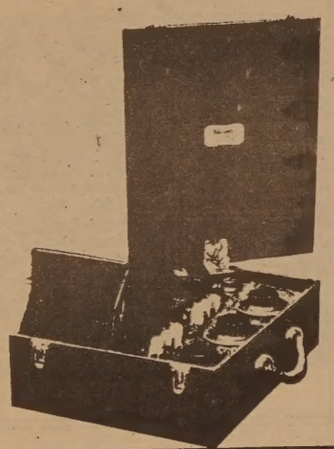
TRADE NAME: Federal
MODEL: 102 Portable
TYPE: One radio, detector and two audio
TUBES: Four
BATTERIES: Dry cell
CONTROLS: Four
ANTENNA: Outdoor
PRICE: $140, without accessories
MANUFACTURER'S NAME: Federal Telephone and Telegraph Company



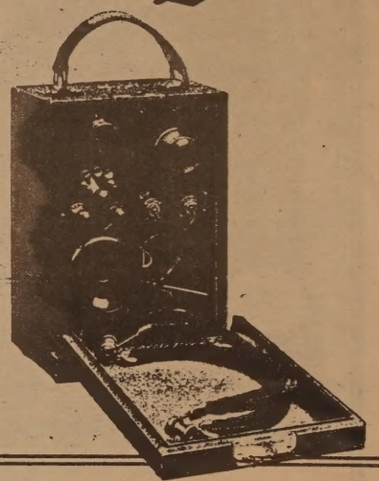
TRADE NAME: Haynes-Griffin
TYPE: Super-heterodyne
WEIGHT AND SIZE: 44 lbs., 21 x 8½ x 17¼ inches
TUBES: Eight
BATTERIES: Dry
CONTROLS: Two
ANTENNA: Loop
PRICE: $100, less accessories
MANUFACTURER'S NAME: Haynes-Griffin Radio Service, Inc.



TRADE NAME: Hetrola Portable
MODEL: R-199-P
TYPE: Super-heterodyne
WEIGHT AND SIZE: 35 lbs., 18½ x 14½ x 8½ inches
TUBES: Seven
BATTERIES: Dry
CONTROLS: Two
ANTENNA: Loop or outdoor
PRICE: $165, without accessories
MANUFACTURER'S NAME: Hetrola Radio Company, Ltd.

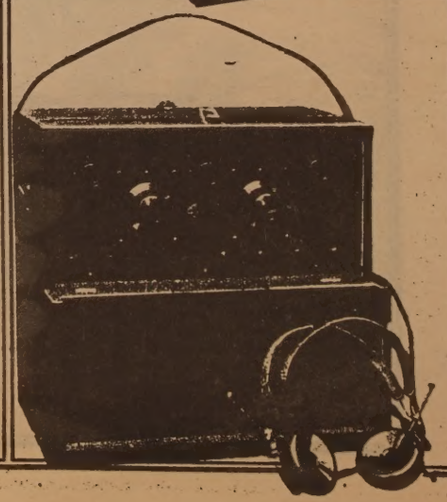


TRADE NAME: Karryadio
TYPE: Tuned radio frequency
WEIGHT AND DIMENSIONS: 29 lbs., 18½ x 14¼ x 5¼ inches
TUBES: Six, 199 type
CONTROLS: Three
BATTERIES: Dry cells
ANTENNA: Loop
PRICE: Case, loop and collapsible loud speaker, $15. Complete with set installed, $75
MANUFACTURER'S NAME: Armley Radio Corp.

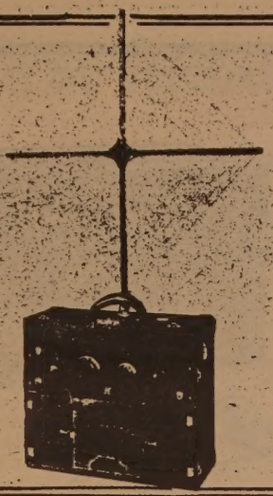


TRADE NAME: Kodel Portable
MODEL: P-11
TYPE: Kodel circuit
WEIGHT AND SIZE: 3 lbs., 6¼ x 9 x 5 inches
TUBES: One
BATTERIES: Dry cell
CONTROLS: One
ANTENNA: Outside standard
PRICE: $16, less accessories
MANUFACTURER'S NAME: Kodel Radio Corporation

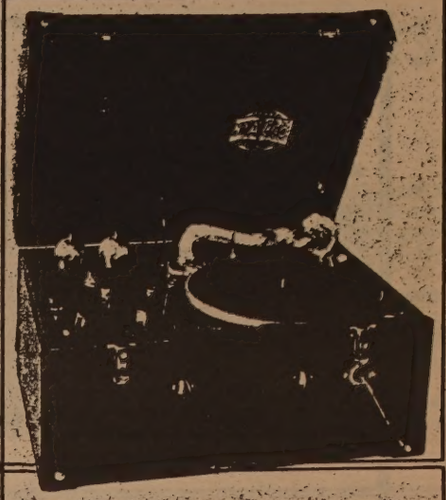
TRADE NAME: Kodel Portable
MODEL: P-14
TYPE: Kodel circuit
WEIGHT AND SIZE: 28 lbs., 14½ x 13¼ x 10¼ inches
TUBES: Four
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Outside standard
PRICE: $50, with built-in loud speaker but without accessories
MANUFACTURER'S NAME: Kodel Radio Corporation



TRADE NAME: Kodel Portable
MODEL: P-12
TYPE: Kodel circuit
WEIGHT AND SIZE: 6 lbs., 10 x 7½ x 9 inches
TUBES: Two
BATTERIES: Dry cell
CONTROLS: One
ANTENNA: Outside standard
PRICE: $22.50, less accessories
MANUFACTURER'S NAME: Kodel Radio Corporation

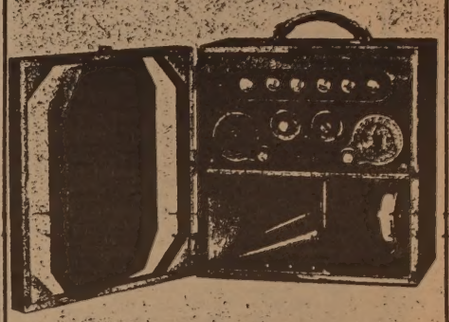


TRADE NAME: Radio Masterpiece
MODEL: P. L. 103
TYPE: Built-in loud speaker and loop
TUBES: Six
BATTERIES: Storage or dry cell
CONTROLS: Two
ANTENNA: Loop, furnished
PRICE: $160, without accessories
MANUFACTURER'S NAME: Lytton, Inc.

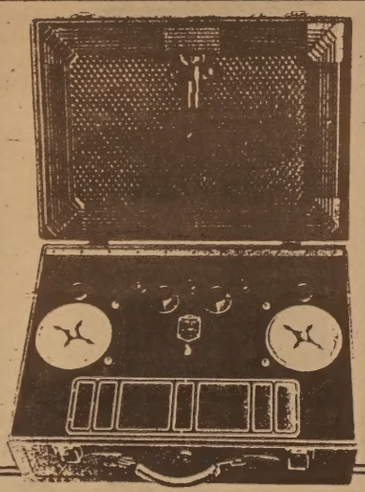


TRADE NAME: Nyaccoflex
MODEL: R. P. 1
TYPE: Reflex in case with phonograph
TUBES: Two
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Outdoor
PRICE: $65, without accessories
MANUFACTURER'S NAME: New York Album and Card Company

TRADE NAME: Operadio
MODEL: 1925
TYPE: Tuned radio frequency
WEIGHT AND SIZE: 41 lbs., 17 x 9 x 12 inches
TUBES: Six
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Loop
PRICE: $189, including tubes, batteries, loud speaker and loop
MANUFACTURER'S NAME: The Operadio Corporation

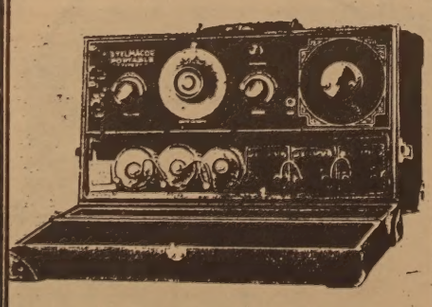


TRADE NAME: Radiola
MODEL: 26
TYPE: Super-heterodyne
WEIGHT AND SIZE: 40 lbs., 13 x 14¼ x 9½ inches
TUBES: Six 199
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Loop
PRICE: $225, with loud speaker, tubes and loop
MANUFACTURER'S NAME: Radio Corporation of America

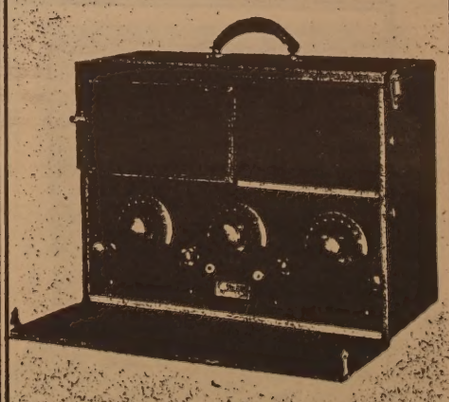


TRADE NAME: Radiola
MODEL: Second harmonic super-heterodyne
TYPE: Radiola 24
WEIGHT AND SIZE: 40 lbs., 21⅜ x 15 x 7¼ inches
TUBES: Six U. V. 199
BATTERIES: Dry cell
CONTROLS: Three
ANTENNA: Loop
PRICE: $195, including tubes, loop and built-in loud speaker
MANUFACTURER'S NAME: Radio Corporation of America

TRADE NAME: Standard
MODEL: Portable
TYPE: One-stage radio, detector and two audio
WEIGHT AND SIZE: 35 lbs., 16 x 9 x 11 inches
TUBES: Four
BATTERIES: Dry
CONTROLS: Two
ANTENNA: Loop
PRICE: $75, less accessories
MANUFACTURER'S NAME: Standard Radio Company



TRADE NAME: Telmaco Portable
MODEL: P-1
TYPE: Reflex
WEIGHT AND SIZE: 26 lbs., 8 x 10 x 18 inches
TUBES: Four
BATTERIES: Dry cell
CONTROLS: Two
ANTENNA: Loop or antenna
PRICE: $125, with loop and loud speaker; $143.50 complete, with tubes and batteries
MANUFACTURER'S NAME: Telephone Maintenance Company



TRADE NAME: Wells Bear-Cat
MODEL: 500
TYPE: Radio frequency
WEIGHT AND SIZE: 36½ lbs., 19 x 15 x 9½ inches
TUBES: Five
BATTERIES: Dry cell
CONTROLS: Three
ANTENNA: Antenna and ground on reel in case
PRICE: $110 including antenna, ground and built-in loud speaker
MANUFACTURER'S NAME: Wells Radio Manufacturing Company

Radio News for August, 1925

Army Goes FM

THE Army has placed its first large order for FM equipment. It has purchased a considerable number of Link sets—one order was for $90,000—similar to those being used by police departments, for the Armored Force. Experimental work is continuing on three new types of FM sets and within a short time, more FM orders will be forthcoming.

The order which has been placed marks

Maj. E. F. Armstrong willingly gave FM. . . .

the end of a long period of hesitation and experimentation with FM by the Army. The research work has been highly secret. In fact, orders for FM equipment were placed secretly with several manufacturers. Some of this equipment was assembled by *General Electric*, spirited to a "blind" factory in the northwest, where units for the armored force were being made, and installed for test work.

Major Edwin F. Armstrong, who holds the basic patents on FM, has turned over to the War Department, free of charge, all his 17 patents. Further, he has agreed to make these patents available, for $1 a year license, to any manufacturer designated by the War Department to make FM equipment for defense. The inventor notified all manufacturers who are now licensed by him and will notify any who take out licenses under the $1-a-year arrangement, that he will waive all royalties on equipment made for defense purposes.

RADIO NEWS

May, 1941

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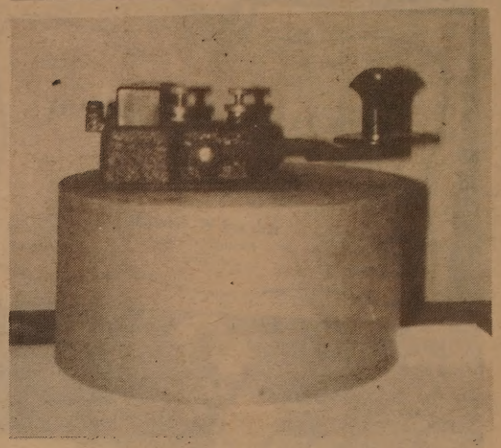

USN FLAMEPROOF KEYS, new , 1955 milspec airless sealed packages, $57.00 shipped U.S.A. telegraph items, parts, old drawings, patents and advertisements. Old galvanometer meter, etc. microphones, 1962 RCA, 1970 TEC portable and other stuff. $1.00 and SASE for illustrated 6 page list (refunded with order) Jos. Jacobs, 60 Seaview Terrace, Northport, NY 11768.

FOR SALE OR TRADE: RCA, RCA VICTOR ADVERTISING ITEMS. ALSO RCA & ATWATER KENT CATALOGS, INSTRUCTION BOOKS, ETC. S.A.S.E. FOR LIST. RADIOLA 16, NEEDS WORK $60.00 PLUS SHIPPING; RCA BALANCED AMP. FOR RADIOLA III, NEEDS GOOD AUDIO, HOLE IN CABINET $130.00

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- Atwater Kent Equipment Catalog
- Radiola III/IIIA Manual
- VINTAGE RADIO IDENTIFICATION SKETCHBOOKS by D.H. Moore (See Flyer for details)
- Radios, The Golden Age - Philip Collins

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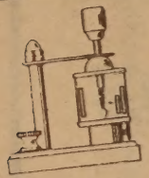

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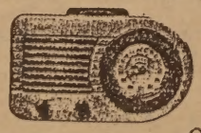

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The following list covers early radios and test equipment which was not tested but appear to be in good shape. Packing and shipping would be extra. NON-MILITARY .. 1) DELCO APPLIANCE CORPORATION, ROCHESTER NY auto radio (probably before owned by GM) model 625 complete with with built in speaker, vibrator, control head with Chevrolet symbol in dial and cables and tubes: 2) 6D6, 6A7, 6B7, 42. highest patent no. is 1,958,027, which is about 1934 vintage. $30.00. 2) PONTIAC AUTO radio model 983526. Includes separate speaker, vibrator, a control head with motorola written on dial face, tubes: 6A8G, 2) 6U7G, 6N7G, 6J5G, 6V7G, 6X5G. latest patent no. 2,027,054 which would make it about 1936 vintage. 30.00. 3) POWERTRON model 250 frequency generator. 350-450 Hertz 30.00. 4) SANBORN 500 Viso-Cardiette cardiograph. May need repair. 5.00. 5) LEAR aircraft automatic direction finder. model ADF-1203. 28V., no display head, unknown condition. 3.00. 6) RADIOLA 25, no antenna or tubes, in rough shape. 1925 vintage battery set. 20.00. 7) RADIOLA chassis for parts, about 1925 vintage. 5.00. MILITARY RADIOS.... 8) NAVY SHIP BOARD AIRCRAFT receiver model RCK. WW II vintage. Built by E. H. Scott, includes manual. Frequency range 115-156 MC. complete with tubes. some paint peeling off case. Runs on 115V. AC 1 phase. Contract date: 3/28/43. 50.00. 9) Signal corps US army transmitter unit TU-22-B. Frequency range 350-650 kc. Dated 11/1/40. Used in aircraft. 20.00. ---- Richard s. Jamieson, 325 Franklin Tpk., Ridgewood, NJ 07450. (201) 447-5331.

FOR SALE: HEATHKIT AR-1 short wave receiver, $25.00 plus $5.00 shipping, Knightkit short wave receiver, $25.00 plus shipping. Original of the Arborphone Instruction Book and Parts list, $5.00 ppd., Copies of Pilot instruction booklets for Universal All-Wave receiver, Super Wasp AC model K-115 and Super Wasp battery model K-110. All 3 booklets for $10.00 plus $1.50 shipping. James Fred, R 1, Cutler, IN 46920.

TUBES, SCHEMATICS, SERVICE NOTES FOR EARLY RADIOS, SASE FOR PRICE LIST. SAM FAUST, P. O. BOX 94, CHANGEWATER, NJ 07831.

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EARLY 1960's Admiral transistor portable radios, models Y2252 or Y2082A. Send photo. Mike Hanke 1036 South 15th Avenue, Wausau, WI 4401.

LITERATURE

ORIGINAL OWNER'S MANUALS FOR RCA tube portable radios, 8BX6 and 66BX, Mike Hanke, 1036 So. 15th Avenue, Wausau, WI 54401.

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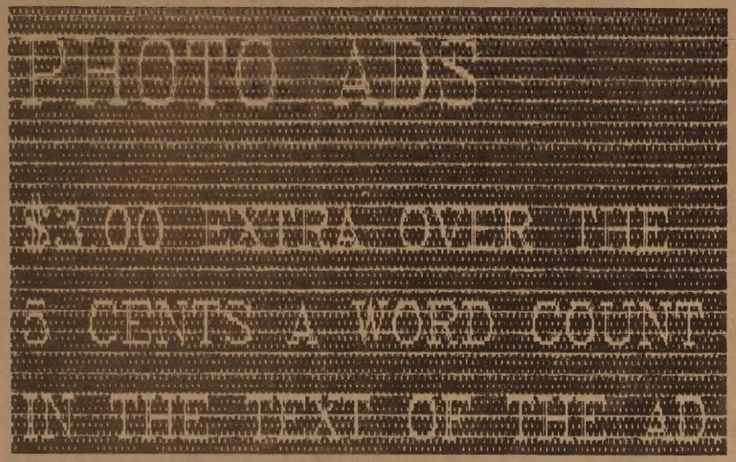

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